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RESULTS OF SARATOGA SPITTLEBUG NYMPHAL SURVEY
ON THE CHEQUAMEGON NATIONAL FOREST

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INTRODUCTION

Saratoga spittlebug, Aphrophora saratogensis (Fitch), outbreak was detected on the Washburn Ranger District during the 1968 scar-count survey.^{1/} The Chequamegon National Forest proposed a suppression project on 314 acres in 7 red pine plantations and requested a spring population evaluation. This nymphal survey confirms the presence of current spittlebug population and forecasts damage that is likely to occur from adult feeding this summer.

METHODS

The nymphal survey was done by the staff of Washburn Ranger District under direction of this writer. The survey consisted of 10-20 1/10 milacre plots, depending on the size of the area, located systematically through the plantation. The number of nymphs and the average red pine stocking, height and number of live whorls were recorded at each plot.

Damage prediction is based on Ewan's tables ^{2/} which relates the feeding surface available to the adult spittlebug, called Tree-Units, and the number of spittlebugs present. The Tree-Units are determined as follows:

$$\text{No. trees/a.} \times \text{Height of Trees} \times \text{No. live whorls/tree} = \text{T.U.}$$

When the number of nymphs per acre approaches the number of Tree-Units, moderate to severe feeding damage is expected.



RESULTS

Table 1 presents the Nymphal Survey results. Plantations P-110c and P-117a, b, c, have 1/3 of plots with high spittlebug populations and severe feeding damage is expected. Plantations P-91, P-98, P-99, P-110d have less than 1/3 plots with high populations, but more than 1/2 with high and moderate combined. These plantations also can expect heavy spittlebug damage, although tree mortality should not occur this year. P-94 has low to moderate nymphal population, although 78% of plots had nymphs present. Since it is across the road from P-91, its control may be advisable.

TABLE I

Plant. No.	Location			Acres	T/A	Ht. Ft.	Live Whorls	Nymphal Populations			
	T _N	R _W	S					High %	Mod. %	Light %	None %
91	44	8	20	106	930	10	10	20	35	15	30
94	44	8	16/21	90	870	10	10	6	22	50	17
98	44	8	16	92	850	9	9	20	30	30	20
99	47	7	2/11	81	500	5	9	24	41	0	35
110c	45	8	16	40	730	7	8	40	0	20	40
110d	45	8	17	7	870	6	6	20	30	20	30
117a,b											
c	45	8	30	99	830	5	6	30	33	4	33
				505							

1/ Millers, I. 1968. Biological Evaluation of Saratoga Spittlebug as based on 1968 scar-count surveys on National Forests in the Lake States. USDA Forest Service, Northeast Area, State and Private Forestry, Division of Pest Control. Rpt. S-68-13. 18 pp.

2/ Ewan, H. G. 1961. The Saratoga Spittlebug. USDA Forest Service, Tech. Bull. 1250. 52 pp.